S/844/62/000/000/035/129
D204/D307

The interactions of ... was promoted by C_2Cl_6. The presence of S hindered the development of structurization, which was, however, promoted by raising the temperature from -80 to 100°C. Pure natural rubber developed cross-linking only up to ~50°C, above which temperature the process was reversed; this reversal was not observed in the presence of 2% S, up to 100°C. The presence of 1 - 4% S in CKC-30AM (SKS-30AM) butadiene-styrene rubber led only to a slight reduction in the degree of cross-linking on irradiation. The loss of unsaturation and $-CH_2-$ groups on irradiation was studied (by ir spectroscopy) on natural rubber both in the presence and absence of S, and was found to be greater in the latter case. The S adds on in a form capable of isotopic exchange with elemental sulfur. Initially 70% of the added sulfur may be exchanged in natural and butadiene-styrene rubbers; this value falls with irradiation to a constant 40% at 50 - 120 Mr. Radiational vulcanizates of natural rubber exhibit increased tensile strength when the polymer contains 2% S, particularly at 100°C; in general, the strength increases with the dose of irradiation. The best strengths were obtained for a mixture of

Card 2/3

natural rubber, S, and C_2Cl_6. The sulfur is believed to interact with the polymeric radicals (formed on irradiation by C-C fission) to form polysulfides which (a) lower the thermomechanical stability, and (b) prevent recombination reactions and reactions of radicals formed with C=C, thus hindering the development of branched structures. There are 12 figures.

ASSOCIATION: NII shinnoy promyshlennosti (NII of the Tire Industry)

Card 3/3

S/844/62/000/000/097/129
D234/D307

AUTHORS: Tarasova, Z. N., Dzantiyev, B. G., Yegorov, Ye. V., Kapunov, M. Ya., Petrova, S. E., Sobolev, V. S. and Dogadkin, B. A.

TITLE: Investigation of rubber structurization under the action of accelerated electrons

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 569-575

TEXT: Natural butadiene-styrene and carboxylate rubbers were investigated. The energy of the electrons was 0.6, 1.6 and 2 Mev. The specimens were 0.02 - 0.3 mm thick films, 60 x 60 x 1 mm plates and 10 mm thick washers. Irradiation in free state in air from an accelerator (0.2 - 0.8 megarad/sec) showed less destruction than that from a Co^{60} source in inert atmosphere. In natural rubber, destruction is much greater in the first case. In filled natural rubber it is less in the first case, in pre-vulcanized mixtures of

Card 1/2

Investigation of rubber ...

carboxylate rubber it is equal in both cases. Thermomechanical stability of electron-irradiated vulcanized rubbers was about 4 times as high as that of Co^{60} irradiated rubbers. Those of carboxyl containing rubbers show high strength and wear resistance (abrasion index = 115 cm^3/kWh for nonfilled rubbers irradiated with 24 megarad and 200 cm^3/kWh for nonfilled sulphur rubbers). Chemical relaxation curve of these rubbers shows destruction and re-grouping of salt bonds in its initial part. There are 6 figures and 2 tables.

ASSOCIATION: NII shinnoy promyshlennosti (NII of the Tire Industry); Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AS USSR)

Card 2/2

34135
S/138/62/000/002/007/009
A051/A126

15.9300
11.2314

AUTHORS: Snisarenko, A.M.; Tarasova, Z.N.

TITLE: A recording dynamometer for the study of relaxation processes in polymer materials

PERIODICAL: Kauchuk i rezina, no. 2, 1962, 37 - 39

TEXT: A recording dynamometer for investigating slow relaxation processes has been designed, permitting the process to take place in various gaseous medii and within a large temperature range. Determination of the relaxation rate of tension is recommended as a method for evaluating the type of inter-molecular vulcanization bonds, the stability of the vulcanizates during the thermo-mechanical actions and fatigue, as well as the effectiveness of the anti-aging and anti-fatigue agents. Disadvantages of previously existing instruments are pointed out as being of low sensitivity, or even dangerous due to the mercury used. The recommended instrument (Fig. 1) does not require the presence of the operator. Its circuit diagram is given in Figure 2. The bridge is fed by a stable tension of D.C. from the accumulator battery B through the rheostat R_7, intended for regulating the working current and with this, the measuring range and sensitivity

Card 1/2

A recording dynamometer for the study of ....

of the instrument. An ЭПП-09 (EPP-09) type potentiometer is used with a sensitivity increased to 0.2 mv over the entire scale (275 mm). The latter is uniform and indicates directly the relative tension at a given time t, i.e., σ_t / σ_o, where σ_t is the tension at time t, and σ_o - the tension in the sample at the initial moment of time. The absolute tension is calculated from the formula: $\sigma = K_1 \cdot K_2 \cdot n$, where K_1 is the sensitivity characteristic of the tensiometer element in $kg/cm^2 \cdot mm$ of the scale; K_2 - the coefficient of sensitivity drop in the instrument, determined from the scale of the sensitivity regulator; n - instrument readings in mm. The tension drop in the vulcanizates under the given conditions takes place due to a thermo-mechanical decomposition of the vulcanized structures according to the monomolecular law and is described by the equation: $\sigma_t/\sigma_o = e^{-kt}$, where k is the constant, t - the duration of relaxation. Data were obtained which showed a correlation between the rate constant of tension relaxation and the durability in vulcanizate fatigue, when containing various anti-fatigue agents. The durability was determined by testing vulcanizates of various fatigue conditions, and by other various methods. There are 2 figures and 4 Soviet-bloc references.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

S/138/62/000/005/005/010
A051/A126

AUTHOR: Dogadkin, B.A.; Drozdovskiy, V.F.; Tarasova, Z.N.; Arkhangel'skaya, M.I.

TITLE: Mercaptane and disulfide effect on thermal and thermo-oxidizing destruction of swollen vulcanizates

PERIODICAL: Kauchuk i rezina, no. 5, 1962, 15 - 22

TEXT: The effects of mercaptanes and disulfides on thermal destruction of swollen vulcanizates were studied. The properties of the destruction products were investigated and the substances mainly responsible for the destruction of sulfur bonds of the vulcanizates were determined. It was established that the mercaptanes and the disulfides increase the degree of thermal destruction of the swollen sulfurous vulcanizate, but do not affect the thermal destruction of the sulfurless radiation vulcanizate. Since there is no connection between the destruction rates of the vulcanizate and the oxidation of the solvent in the presence of mercaptanes and disulfides, it is assumed that the rate of the thermo-oxidizing destruction is determined by the effectiveness of the radicals formed,

Card 1/3

Mercaptane and disulfide effect on thermal and ....

capable of removing hydrogen atoms from the rubber substance of the vulcanizate. Experimental findings led to the following conclusions: Aromatic and aliphatic mercaptanes and disulfides increase the degree of thermal destruction of the vulcanizate based on SKS-30A rubber. The derivatives of the aromatic row (trichlorothiophenol, β-thionaphthal, disulfide β-thionaphthal and disulfide n--tertiary-butylphenol) are more active than the derivatives of the fatty row (dodecylmercaptane and its sulfide). The mercaptanes are more active than the corresponding disulfides. The trichlorothiophenol, dodecylmercaptane and the disulfide n-tertiary-butylphenol do not noticeably affect the thermal destruction at 180°C of the sulfurless radiation vulcanizate, based on SKS-30A rubber. The rate of the thermo-oxidizing destruction of the vulcanizate depends on the nature of the mercaptanes and the disulfides and that of the solvent. At a constant concentration of oxygen in the system, with a shift of the temperature beyond a certain limit, a reversion of the thermo-oxidizing destruction is noted. The destruction reversion is slowed down in the presence of mercaptanes and disulfides. By comparing the data on the rates of oxidation of the mercaptanes and solvents with that of the thermo-oxidizing destruction of the sulfurous vulcanizate, it is seen that a direct relation between them is not always noted.

Card 2/3

Mercaptane and disulfide effect on thermal and S/138/62/000/005/005/010
A051/A126

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

Card 3/3

S/190/62/004/008/010/016
B101/B180

AUTHORS: Tarasova, Z. N., Fogel'son, M. S., Kozlov, V. T., Kashlinskiy, A. I., Kaplunov, M. Ya., Dogadkin, B. A.

TITLE: Epr study of the radiation vulcanization of rubber in the presence of sulfur and hexachlor ethane

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 8, 1962, 1204-1209

TEXT: Recorded epr spectra were used to study the formation of free radicals during the radiation polymerization of natural rubber (NR) and mixtures of NR with 2wt.% sulfur or 10wt.% C_2Cl_6. Irradiation was conducted at -196 - +20°C with Co^{60} at a dose of 6 - 11 Mr. Results: (1) Long-lived radicals with an initial concentration of $(1-2.5)\cdot10^{14}$ mg^{-1} form in NR and its mixtures with S or C_2Cl_6 at 20°C and 6-8Mr. (2) Radicals of different lives form with irradiation at -196°C. Their initial concentrations in NR, NR + C_2Cl_6 and in NR + S are

Card 1/3

Epr study of the radiation ...

$(4.9\pm0.7)\cdot10^{15}$ mg^{-1}, $(11\pm2)\cdot10^{15}$ mg^{-1}, and $(2.6\pm0.6)\cdot10^{15}$ mg^{-1}, respectively. The inhibiting effect of S is due to delocalization of an electron in the S_8 ring. (3) If the NR + C_2Cl_6 sample irradiated at -196°C is slowly brought to room temperature, structuration occurs near the vitrification temperature (-70°C). Short-lived radicals disappear and the concentration of free radicals approaches the room temperature level. (4) Gradual heating of the NR + S sample yields new short-lived radicals with a g factor of 2.027 ± 0.003 which is typical of S radicals. The radicals whose concentration reaches a maximum of approximately $6\cdot10^{14}$ mg^{-1} at -80°C are formed by reaction between NR and S, the S_8 ring being ruptured. (5) After irradiation, crystalline C_2Cl_6 showed an intensive epr signal, from which it is assumed that various types of radical are formed. The formation of CCl_3 radicals was confirmed by the analytical detection of chloroform. (6) Structuration of NR irradiated at low temperatures is supported by C_2Cl_6 and impeded by S which increases

Card 2/3

Epr study of the radiation ...

the static strength of the radiation vulcanizate. (7) Crystalline S showed only a weak epr signal. There are 5 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: May 12, 1961

Card 3/3

DOGADKIN, B.A.; DROZDOVSKIY, V.F.; TARASOVA, Z.N.; ARKHANGEL'SKAYA, M.I.

Effect of mercaptans and disulfides on the properties of products of degradation of swollen vulcanizates of the butadiene-styrene rubber. Kauzh.i rez. 21 no.7:24-27 Jl '62. (MIRA 15:7)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber, Synthetic) (Sulfides) (Thiols)

36277
S/069/62/024/002/002/008
B110/B101

11.9000

AUTHORS: Dogadkin, B. A. Tarasova, Z. N., Gol'berg, I. I., Kuanyshev, K. G.

TITLE: Effect of vulcanization structures on the strength of vulcanizates

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 2, 1962, 141-151

TEXT: The static and dynamic strengths of three-dimensional elastomers (vulcanizates without a filler) depend on (1) composition and structure of the molecular chains, (2) type, concentration and distribution of the vulcanized bonds, (3) secondary structures. The vulcanized bonds may be (a) covalent, (b) electrovalent, and (c) local and intramolecular. Since their energies and distributions are not uniform it was suggested that

$$P = \tau_0(\beta)\, x^{3/4}\left(\frac{1}{1+1{,}330x} - q\right)\left(1 - \frac{M_c}{M}\right)^{3/4}. \quad (1)$$

where

$$x = \left(\frac{aT_c}{kT\alpha}\right)^{1/4}, \quad (2)$$

Card 1/3

Effect of vulcanization structures ...

$$\tau_0(\beta) = \left(\frac{A\rho}{3M_0}\right)^{1/6}\left(\frac{kT}{aT_c}\right)^{1/6} T_c \frac{1}{1+b_1\beta}, \qquad (3)$$

$$q = \frac{1}{2+b\beta}, \quad \beta = \frac{n_1}{n_1+n_2}, \quad 0 \leqslant \beta \leqslant 1,$$

where ρ is the polymer density, M_c is the average molecular weight between the sites, M_0 is the molecular weight of the monomer, σ is the average of monomeric links per chain, a is the average interstitial chain segment length, T_c is the strength of the polymer chain, and n_1 and n_2 are the numbers of cross links of different types. Weak bonds and bonds that are easy to regroup (polysulfide, salt, and hydrogen bonds) promote the dissipation of local overstress, the alignment of the principal chain, and the formation of crystalline domains. The strong C-C bonds back up the strength of the space lattice at high temperatures and significant strain. The measurement of tensile strength was experimental proof of the proposed formula. Natural rubber was vulcanized (1) with sulfur and diphenylguanidine (polysulfide bonds ~27 kcal/mole), (2) treated with Co gamma rays at room temperature (lattice with C-C bonds ~64 kcal/mole), (3) with sulfur

Card 2/3

and gamma rays. The optimum tensile strengths were (1) ~270 kg/cm^2 at $\nu_c = 3.8 \cdot 10^{19}$ ml^{-1}, (2) ~280 kg/cm^2, $\nu_c = 3.1 \cdot 10^{19}$ ml^{-1}, (3) ~340 kg/cm^2 at $\nu_c = 6.0 \cdot 10^{19}$ ml^{-1}. Movable and regroupable salt bonds lead to a great static strength of butadiene styrene rubbers vulcanized with metal oxides. The dynamic strength depends on the types of bond and on the strain conditions. Symmetrical alternating-sign twist with bending at 120°C showed that vulcanizates with thiuram with C-C and C-S-C bonds have a greater strength than vulcanizates with diphenyl guanidine and sulfur with C-S_x-C polysulfide bonds. Examination of non-filled vulcanizates of butadiene styrene rubber with sulfur, hexachloro ethane, dicumyl peroxide, and tetrachloroquinone at ~100°C, 250 cps, and 30% deformation amplitude showed that the vulcanizate of carboxyl rubber with salt bonds had the highest creep rate. The creep rate was dependent on the number of deformation cycles before rupture started to occur. There are 11 figures and 2 tables.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: November 14, 1961

Card 3/3

L 12850-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Pr-4/Pc-4

RM/WW/JT

ACCESSION NR: AP3001163 S/0190/63/005/006/0892/0899

AUTHOR: Tarasova, Z. N.; Eytington, I. I.; Sinatorskaya, L. G.; Fedorova, T. V.; Snisarenko, A. M.; Andronova, G. I.; Dogadkin, B. A.

TITLE: Effect of thio-derivatives of amines and phenols in the process of thermomechanical treatment and fatigue of vulcanizates

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 6, 1963, 892-899

TOPIC TAGS: vulcanizates, fatigue of vulcanizates, thermomechanical treatment, thio-derivatives of amines, thio-derivatives of phenols, rate of oxygen uptake, hydroperoxides, synergistic effect

ABSTRACT: Earlier publications by the authors demonstrated that thermomechanical stresses cause a breakdown and regrouping of the vulcanization network in vulcanizates, the ultimate sheer modulus depending on the course of the regrouping processes. Since similar phenomena are taking place also in thermo-oxidative processes, where a key role belongs to the free radicals, it was logical to assume that the properties of vulcanizates would be influenced by substances capable of controlling the oxidations and the free radicals as well. To this end, thio-derivatives of amines and phenols were chosen, and their effect on the decomposition

Card 1/2

L 12850-63
ACCESSION NR: AP3001163

1

of cumenehydroperoxide and on the kinetics of oxygen uptake by rubber studied, using the electron para-magnetic resonance technique. It was found that in the presence of 0.02 Mol of thiodiphenylamine per 1 Mol of peroxide it takes 90 minutes for its complete decomposition, as against 30 minutes with diphenylamine and 20 minutes without an inhibitor. The addition of 0.5 Millimol of the same amines to 100 gm rubber at 130C showed within one hour a barely noticeable oxygen uptake in the presence of thiodiphenylamine, as against 400 ml/gm for diphenylamine, while the control reached the latter figure within 30 minutes. The thio-derivatives of amines and phenols also showed a much more pronounced effect on the rate of chemical relaxation and a higher fatigue resistance of the vulcanizates as compared with the corresponding amines. An additional advantage of the thio-derivatives is their synergistic effect. It is concluded that the thio-derivatives of amines are more effective, as compared to the amines, in the preservation of the original vulcanization network in the processes of thermo-oxidative and thermomechanical influences. It is mentioned in footnotes that measurements by the electron paramagnetic resonance technique were obtained by Kashlinskaya, A. I. on an installation OKBA of the Goskhimkomitet, and that the spectrum was taken by Kavun, S. M. on a RE-1301 radiospectrometer of the Scientific Research Institute of the Tire Industry. Orig. art. has: 1 formula, 7 charts, and 3 tables.

Card 2/2

Scientific Research Inst. of the Tire Industry

TARASOVA, Z.N.; KIRPICHNIKOV, G.A.; FEDOROVA, T.F.

Action of alkyl aryl phosphites as antifatigue agents of the butadiene-styrene rubber vulcanizates. Kauch. i rez. 22 no.10: 14-16 O '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

TARASOVA, Z.N.; DOGADKIN, B.A.

Thermal stress relaxation in vulcanizates of various cross-linkage. Koll.zhur. 25 no.6:695-702 N-D '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moskva.

TARASOVA, Z. N.; DOGADKIN, B. A.; LYKIN, A. S.; KAPLUNOV, M. Ya.; KHOZAK, V. K.; KOZLOV, V. T.; SOBOLEV, V. S.; KLAUZEN, N. A.

"Struktura i svoystva vulkanizatov, poluchennykh kombinirovannym deystviem sery i ioniziruyushchikh izlucheniy."

report submitted for 35th Intl Cong, Industrial Chemistry, Warsaw, 15-19 Sep 64.

Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moscow.

3

L 17560-65 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/T/EWA(h)/EWA(l) Pc-4/
Pr-4/Ps-4/Peb/Pu-4 GG/JM

ACCESSION NR: AP4049784 S/0138/64/000/011/0028/0033

AUTHOR: Kaplunov, M. Ya.; Khozak, V. K.; Kozlov, V. T.; Sobolev, V. S.; Tarasova, Z. N.; Borisov, V. A.; Karpov, V. L.; Dogadkin, B. A.

TITLE: Thermoradiation vulcanization of tires

SOURCE: Kauchuk i rezina, no. 11, 1964, 28-33

TOPIC TAGS: thermoradiation vulcanization, rubber structure, sulfur vulcanization, tire wear, thermal aging

ABSTRACT: The effectiveness of the method of thermoradiation vulcanization was investigated from the point of view of increasing the quality of the tires. The radiation unit consisted of 18 spent, heat-liberating elements from an atomic reactor. The total activity amounted to 76,000 gram-equivalents of radium. Not more than six 6.60-15 tires could be treated at one time in a cylindrical vat with a hermetically closed cover. The tires had a reduced content of vulcanizing agent; one contained a sensitizer of radiation structuring-hexachlorethane. Irradiation was in an argon medium at 0.35 atm pressure. The temperature did not exceed 40C. Radiation doses amounted to 5, 9, 13, and 20 Mrad. The resulting vulcanizate had the optimum relationship of crosslinks of the type -C-C- and

Card 1/2

L 17560-65

ACCESSION NR: AP4049784

-C-Sx-C. The destructive processes as well as processes of oxidation and trans-isomeri-
zation were less than during sulfur and radiation vulcanization. The relative content of
rubber in the "active" portion of the vulcanizatio network was high. The rubbers had
much higher elasticity and strength, as well as i creased resistance to thermal aging and
wear. Accelerated road tests showed 15-20% gr ater wear resistance than standard tires.
"The relationship between structurization and de truction was determined by A. S. Ly*kin.
N. D. Stepanov, V. Ye. Lesnichiy and L. M. Du ayev (member of NIFKhI) took part in
setting up the apparatus. The design of the appa atus was developed under the quidance of
G. N. Lisov (member of NIFKhI). Measurement of radioactivity and dosimetry were
carried out by A. G. Vasil'yev and V. Ye. Drozd va (member of NIFKhI). The TsZL
MShZ took part in manufacturing the tires." Orig art. has: 5 figures and 4 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institu shinnoy promy*shlennosti (Scientific Re-
search Institute for the Tire Industry); Nauchno-i sledovatel'skiy fiziko-khimicheskiy insti-
tut im. L. Ya. Karpova (Scientific Research Insti tute for Physics and Chemistry)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 005 OTHER: 001

Card 2/2

TARASZOVA, Z.N.[Tarasova, Z.N.];KOZLOV, V.G.; DOGADKIN, B.A.

Simultaneous vulcanization of caoutchouc by sulfur and ionizing radiation. Magy kem lap 19 no.7:354-359 Jl '64.

1. Scientific Research Institute of Rubber Industry, Moscow.

KAPLUNOV, M.Ya.; KHOZAK, V.K.; KOZLOV, V.T.; SOBOLEV, V.S.; TARASOVA, Z.N.; BORISOV, V.A.; KARPOV, V.L.; DOGADKIN, B.A.

Thermoradiation vulcanization of tires. Kauch.i rez. 23 no.11:28-33 N '64. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i filial Nauchno-issledovatel'skogo fiziko-khimicheskogo instituta im. L.Ya.Karpova.

L 40540-65 EWG(j)/EWT(d)/EWT(m)/EW[illegible](c)/EWP(v)/EWP(j)/T/EWP(k)/EWP(l)/
EWA(h)/EWA(l) Pc-4/Pf-4/Peb DIAA[illegible] GS/RM
ACCESSION NR: AT5004106 S/0000/64/000/000/0210/0215 37
B+1

AUTHOR: Snisarenko, A. M. (Deceased); Nepomnyashchiy, Ye. F.; Novopol'skiy, V. I.; Tarasova, Z. N.

TITLE: A new method for determining the wear of tire treads by means of radioactive compounds

SOURCE: Nauchno-tekhnicheskoye soveshchaniye po friktsionnomu iznosu rezin. Moscow, 1961. Friktsionnyy iznos rezin (Frictional wear of rubber); sbornik statey. Moscow, Izd-vo Khimiya, 1964, 210-215

TOPIC TAGS: rubber wear, frictional wear, rubber abrasion, tire tread, abrasion testing, radioisotope measurement

ABSTRACT: Two methods have been developed at the NII shinnoy promyshlennosti (Tire industry scientific research institute) to permit exact measurements of the wear of tire treads under commercial and laboratory conditions, respectively. For measurements under road conditions, a B-ray source, preferably thallium-204, is inserted into the tire and the intensity of radiation is found to increase with the wear of the absorbing rubber layer. A metal alloy of Tl-204 is prepared by melting with

Card 1/3

L 40540-65
ACCESSION NR: AT5004106

tin and lead to a concentration of 1 mc/g and solidified in a thin-walled glass capillary to obtain fine wires for inserting into the tire through the needle of a syringe. The error of measurement is negligible if the isotope is not covered by a layer thicker than 1.5 mm of rubber, permitting ± 0.01 mm accuracy. The scattering of data is lower than in measurements with a depth gage, as shown in Fig. 1 of the Enclosure. The second method, designed for wear tests under laboratory conditions, involves the diffusion of sulfur-35 into the tread during vulcanization. A gradient of radioactivity is formed in the tread, permitting automatic recording of wear during testing. The measured surface activity can be linearly correlated with wear by an exponential equation except for a short initial period of wear. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 05Aug64 ENCL: 01 SUB CODE: MT, IE

NO REF SOV: 000 OTHER: 002

Card 2/3

L 40540-65
ACCESSION NR: AT5004106 ENCLOSURE: 01

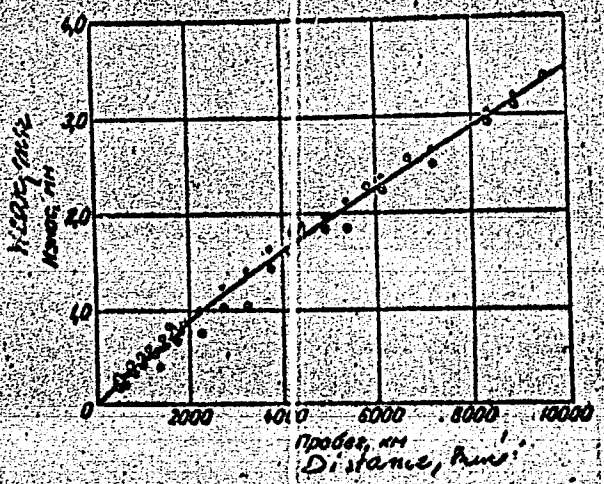


Figure 1. The dependence of tire tread wear on road mileage: o-measurements with radioactive compounds; o-measurements with a depth gage.

Card 3/3

L 63797-65 EWT(m)/EPF(c)/EWP(j) RM
ACCESSION NR: AP5018793 UR/0138/65/000/007/0005/0010 44 41
678.063:541.68

AUTHOR: Tarasova, Z. N.; Senatorskaya, L. G.; Fedorova, T. V.; Eytingon, I. I.; Kirpichnikov, P. A.; Kavun, S. P.; Dogadkin, B. A.

TITLE: Effect of the structure of the vulcanizing network on the fatigue of rubber and study of methods of their stabilization

SOURCE: Kauchuk i rezina, no. 7, 1965, 5-10

TOPIC TAGS: stabilizer, antifatigue agent, antioxidant, vulcanizate fatigue, thermooxidation, zinc organic compound, synthetic rubber

ABSTRACT: The article reports on a study of the effect of zinc diisopropyl dithiophosphate, zinc diisopropyl dithiocarbamate and their combinations with derivatives of phenols and paraphenylenediamines on the stabilization of vulcanizates prepared from NK, SKI-3, SKD, and SKS-30 ARKM rubbers in the course of thermal and thermooxidative treatment in static tension and under repeated deformation. It was found that compounds containing branched alkyl groups in the molecule, particularly the diisopropyl group, have the greatest stabilizing effect against the thermomechanical and thermooxidative processes associated with the fatigue of vulcanizates. Zinc diisopropyl dithiophosphate is a weak vulcani-

Card 1/2

L 63797-65

ACCESSION NR: AP5018793

zation accelerator and produces vulcanizate with a lesser sulfide character of the cross links. It does not affect the induction perio of the oxidation of rubber and vulcanizates by molecular oxygen, but speeds up the decom osition of cumene hydroperoxide in rubber solutions as a result of the oxidation of sulf r to the corresponding sulfoxides. In contrast to the antifatigue agents and antioxida ts commonly used, which do not stabilize the processes of thermal degradation, zinc dii s propyl dithiophosphate has an inhibiting influence on the thermomechanical breakdown of the vulcanizing network. The use of oxidation inhibitors in conjunction with substance s stabilizing the thermal cleavage of bonds is an effective means of combating the fatigue of rubbers containing polysulfide bonds at high temperatures. Orig. art. has: 5 figures a d 4 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 007 OTHER: 004

Card 2/2

L 64556-65 EWT(m)/EPF(c)/EWP(j) RM

ACCESSION NR: AP5020968 UR/0190/65/007/008/1368/1372 39
678.01:54+678.762+678.86 32
8

AUTHOR: Kirpichnikov, P. A.; Tarasova, Z. N.; Bayeva, N. A.; Fedorova, T. V.

TITLE: Sulfur containing polyphosphites and their utilization as stabilizers of butadiene-styrene rubbers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 8, 1965, 1368-1372

TOPIC TAGS: synthetic rubber, butadiene styrene rubber, inorganic synthesis, inorganic anion, sulfide, phosphite, phosphorous acid, hydrolysis, cyclic strength, synergy/Neozon D cyclic strength agent, SKS-30 ARKM rubber

ABSTRACT: More effective hydrolysis-resistant stabilizers for polymers are required. Hydrolysis-resistant polyphosphites were synthesized by ester interchange of equimolar amounts of aryl esters of phosphorous acid with alkylated dihydroxydiphenyl sulfides. The syntheses were conducted in two stages-- at atmospheric pressure, then under vacuum. The products were very viscous or hard powderable yellow materials, soluble in benzene, chloroform, and dioxane. They were oxidized to polyphosphates with oxygen, and formed thiopolyphosphates

Card 1/2

L 64556-65

ACCESSION NR: AP5020968

on heating with powdered sulfur. Polyphosphites based on 4,4'-dihydroxy-2,2'-dimethylsulfide and 4,4'-dihydroxy-3,3'-dimethylsulfide hydrolysed very slowly and the product with 4,4'-dihydroxy-2,2'-dimethyl-5,5'-di-tert. butyldiphenyl sulfide (I) was almost insoluble. When tested as anti-fatigue agents in filled and unfilled butadiene-styrene SKS-30 ARKM rubber, they were more effective than Neozon D. They displayed a synergistic effect in combination with Neozon D. The product of I with triphenylphosphite was especially effective. Orig. art. has: 3 tables and 1 equation

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskiy institut im. S. M. Kirova (Kazan Chemical Engineering Institute); Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute for the Tire Industry)

SUBMITTED: 14Sep64 ENCL: 00 SUB CODE: GC, MT

NR REF SOV: 007 OTHER: 003

Card 2/2

ACC NR: AR6020775 (A) SOURCE CODE: UR/0081/66/000/004/S004/S005

AUTHOR: Tarasova, Z. N.; Senatorskaya, L. G.; Fedorova, T. V.; Zytingon, I. I.; Kavun, S. M.; Dogadkin, B. A.

TITLE: Effect of the structure of vulcanizing network and rubber compositions on the effectiveness of antifatigue agents

SOURCE: Ref. zh. Khimiya, Part II, Abs. 8S673

REF SOURCE: Sb. Sintez i issled. effektivn. stabilizatorov dlya polimern. materialov. Voronezh, 1964, 138-144

TOPIC TAGS: chemical stabilizer, thermomechanical property, synthetic rubber

ABSTRACT: p-Phenylenediamines, thioamines, biphenols, thiophenols, phosphites and thiophosphites were studied as inhibitors (IN) of thermomechanical and thermal-oxidative degradation. The purity of the polymer has a strong influence on the stabilizing effect of IN. Additional introduction of IN into cured rubbers from raw rubbers treated with stabilizers causes a marked increase in stability only when they form a mutually reinforcing system with the stabilizers of the raw rubber. The composition and nature of the vulcanizing network substantially affect the stability of the cured rubbers and the manifestation of the action of IN. According to chemical relaxation data, the relative effectiveness of the action of IN increases with rising content of the accelerators in the mixtures. Increasing the stability of sulfur-free cured rub-

Card 1/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754930009-3"

L 45710-66
ACC NR: AR6026775

bers by using IN is difficult, and can be accomplished only by using certain categories of stabilizers. The introduction of carbon blacks into polyisoprene mixtures causes the thermomechanical and thermal-oxidative stability to decrease, and in the case of polybutadiene mixtures does not decrease the stability of the vulcanizates. M. Otopkova. [Translation of abstract]

SUB CODE: 11

Card 2/2 UCR

TARASOVA, ...M.; DEMATCHOKAYA, L.G.; PEROVA, T.V.; EYTINGON, I.I.; KERPICHNIKOV, P.A.; KAVUN, S.P.; DOGADKIN, B.A.

Effect of the structure of the vulcanizing network on the aging and fatigue of rubber and development of methods for its stabilization. Kauch. i rez. 24 no.7:5-10 Jl '65. (MIRA 18:8)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

L 42132-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 WW/RM S/0069/65/027/002/0224/0231

ACCESSION NR: AP5008902

AUTHORS: Lykin, A. S.; Tarasova, Z. N.; Dogadkin, B. A.

TITLE: Effect of vulcanization network structures on the strength and elastic properties of rubber. 2. Structural changes in the network during thermal and thermooxidation activity

SOURCE: Kolloidnyy zhurnal, v. 27, no. 2, 1965, 224-231

TOPIC TAGS: degradation reaction, crosslinked polymer, vulcanization, elastic property, thermooxidation, thermal effect

ABSTRACT: The authors' purpose was to investigate experimentally the changes in structures of the vulcanization network in their dependence on the principal initial parameters, the chemical composition, and the conditions of degradation. Studies were made chiefly on pure cured rubber from natural rubber, vulcanized by different agents and methods. The structural changes in the vulcanization network of different types of rubber containing various rubber hydrocarbons, when subjected to thermooxidation, when swollen in solvent, under conditions of thermal and thermo-oxidative stress relaxations, are due to breakdown of chains and nodes and to the formation of new, secondary nodes. The degradation rate of molecular chains is

Card 1/2

L 42132-65
ACCESSION NR: AP5008902

directly proportional to the distance between nodes. The rate of nodal degradation is independent of the initial concentration. The formation of secondary nodes in natural rubber vulcanizates is due chiefly to the reaction of polymer radicals from degradation of the molecular chains. Two new nodes appear as the result of the breakdown of one molecular chain. The degradation rate of the nodes and chains of vulcanizates from carboxyl-bearing rubber during thermal relaxation of stress depends essentially on the content of methacrylic acid. This is due to the presence of blocks of this constituent in the copolymer chains. Orig. art. has: 3 figures and 4 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moscow (Scientific Research Institute of the Tire Industry)

SUBMITTED: 28Aug64 ENCL: 00 SUB CODE: MT

NO REF SOV: 002 OTHER: 001

Card 2/2

L 28457-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6017856 (A) SOURCE CODE: UR/0069/66/028/003/0353/0361

AUTHOR: Dogadkin, B. A.; Tarasova, Z. N.; Lykin, A. S.; Kuanyshev, K. G.

ORG: Scientific Research Institute of the Tire Industry (Nauchno-issledovatel'skiy institut shinnoy promyshlennosti); Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova)

TITLE: Effect of vulcanization crosslinks and network parameters on the strength of vulcanizates

SOURCE: Kolloidnyy zhurnal, v. 28, no. 3, 1966, 353-361

TOPIC TAGS: vulcanizate, crosslink, network parameter, tensile strength

ABSTRACT: A study has been made of the effect of the cross-link type and network parameters on the tensile strength of unfilled vulcanizates of natural, cis-polyisoprene (SKI), cis-polybutadiene (SKD), butadiene-styrene (BSK), and carboxyl-containing (SKS-30-1) rubbers. Various vulcanizing agents were used to obtain vulcanizates with different cross links, and different network parameters, viz., total number of chains (1/Mc) and number of active chains ($1/M'_c$) per cm^3 of the vulcanizate; and value of instantaneous molecular weight M_{n_τ} (molecular

Card 1/2 UDC: 541.68

L 28457-66

ACC NR. AP6017856

weight at a given stage of degradation or cross linking). It was shown that: 1) at up to 120C, for a deformation rate of 500 mm/sec, for a given $1/M_c$ and a constant M_{n_T}, tensile strength (P) increases in the following order: Ap 355 (this order can be reversed at higher temperatures and lower deformation rates); 2) with an increase in $1/M_c$ the maximum tensile strength increases in the same order as in 1); 3) tensile strength is a linear function of the content (w_α) is the portion of the network determined from formula $W_\alpha = 1 - M_c/M_{n_0}$, where M_{n_0} is the initial molecular weight; 4) vulcanizates containing an optimum ratio of strong to weak, mobile, and readily rearranging cross-links exhibit high tensile strength; the mobile links dissipate local overstresses and facilitate orientation of the backbones, while the strong crosslinks prevent disintegration of the vulcanizates. Orig. art. has: 9 fig. and 1 table. [BO]

SUB CODE: 07, 11/ SUBM DATE: 29Dec65/ ORIG REF: 010/ OTH REF: 006

ATD PRESS: 5006

Card 2/2 JC

L 04977-67 EWT(m)/EWP(j) IJP(c) RM
ACC NR: AP6030598 (A,N) SOURCE CODE: UR/0413/66/000/016/0091/0091

INVENTOR: Eytingon, I. I.; Tarasova, Z. N.; Vinogradova, T. N.; Senatorskaya, L. G.; Zhukova, I. I.

ORG: none

TITLE: Stabilization of rubbers. Class 39, No. 185050

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 91

TOPIC TAGS: rubber stabilization, paraphenylenediamine derivative, rubber, chemical stabilization

ABSTRACT: An Author Certificate has been issued for a method of stabilizing rubbers by the addition of bis-(1-anilinomethyl-3-aminomethyl-2-naphtol)-N,N'-p-phenylenediamine [sic] to rubber mixtures. [BO]

SUB CODE: 11/ SUBM DATE: 17May65/

Card 1/1 UDC: 678.4.048.25

ACC NR: AP7000912 (A) SOURCE CODE: UR/0138/66/000/012/0015/0018

AUTHOR: Kim, I. P.; Yegorov, Ye. V.; Gol'danskiy, V. I. Dogadkin, B. A.; Tarasova, Z. N.

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii); Institute of Chemical Physics AN SSSR (Institut khimicheskoy fiziki AN SSSR); Scientific Research Institute of the Tire Industry (Nauchno-issledovatel'skiy institut shinnoy promyshlennosti)

TITLE: Radiation—induced vulcanization with 20—30 Mev electrons

SOURCE: Kauchuk i rezina, no. 12, 1966, 15-18

TOPIC TAGS: radiation induced vulcanization, fast electron, high energy electron, irradiation vulcanizate, induced radioactivity

ABSTRACT: The radioactivity of rubbers, rubber mixtures, and their ingredients irradiated with 20—30 Mev electrons has been investigated. The study was undertaken because 5—10 Mev electrons, currently used in radiation-induced vulcanization, penetrate only to a small depth (2—4 cm in a substance with a density of 1 g/cm^3) and, therefore, are unsuitable for the vulcanization of large-size products. Theoretical analysis of the problem and experiments showed that: 1) the reactions proceed under the effect of electromagnetic radiation generated as a result of deceleration of fast electrons in the substance; 2) irradiation of rubbers, rubber

UDC: 678.028:66.085

Card 1/2

ACC NR: AP7000912

mixtures, and their ingredients with fast, 20—30 Mev electrons forms the radioactive isotopes C^{11}, O^{15} and Zn^{63} as a result of γ, n-type photonuclear reactions; 3) owing to the short halflife (minutes or tens of minutes) of these isotopes, the radioactivity which is induced in the irradiated specimens decays in a matter of hours; 4) rubbers, rubber mixtures, and their ingredients are not activated with secondary neutrons; 5) the use of fast, 20—30 Mev electrons for the vulcanization of large-size rubber products presents no danger for personnel, provided that the irradiated products are held in isolation for one day. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 11,20,18/ SUBM DATE: 12Jul65/ ORIG REF: 005/ OTH REF: 002/ ATD PRESS: 5108

Card 2/2

KRYLOV, Vladimir Iosifovich; BRONTVAYN, Leon Robertovich; ANPILOGOV, R.I., inzh., retsenzent; TARASOVICH, Y.S., inzh., red.; FURER, P.Ya., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn.red.

[Guide to melting with high-frequency currents] Pamiatka plavil'shchika-vysokochastotnika. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 112 p. (MIRA 14:5)
(Precision casting) (Induction heating)

MYLKO, Sergey Nesterovich; TARASOVICH, Vasiliy Savvich[Tarasovych, V.S.]; NOVIK, O.M., red.; GUSAROV, K.F.[Husarov, K.F.], tekhn. red.

[New developments in foundry practice in the Ukraine]Nove u lyvarnomu vyrobnytstvi Ukrainy. Kyiv, Derzhtekhvydav URSR, 1962. 31 p. (MIRA 15:11)
(Ukraine--Founding)

TARASS, Nasser; STAJNIAK, Jozef

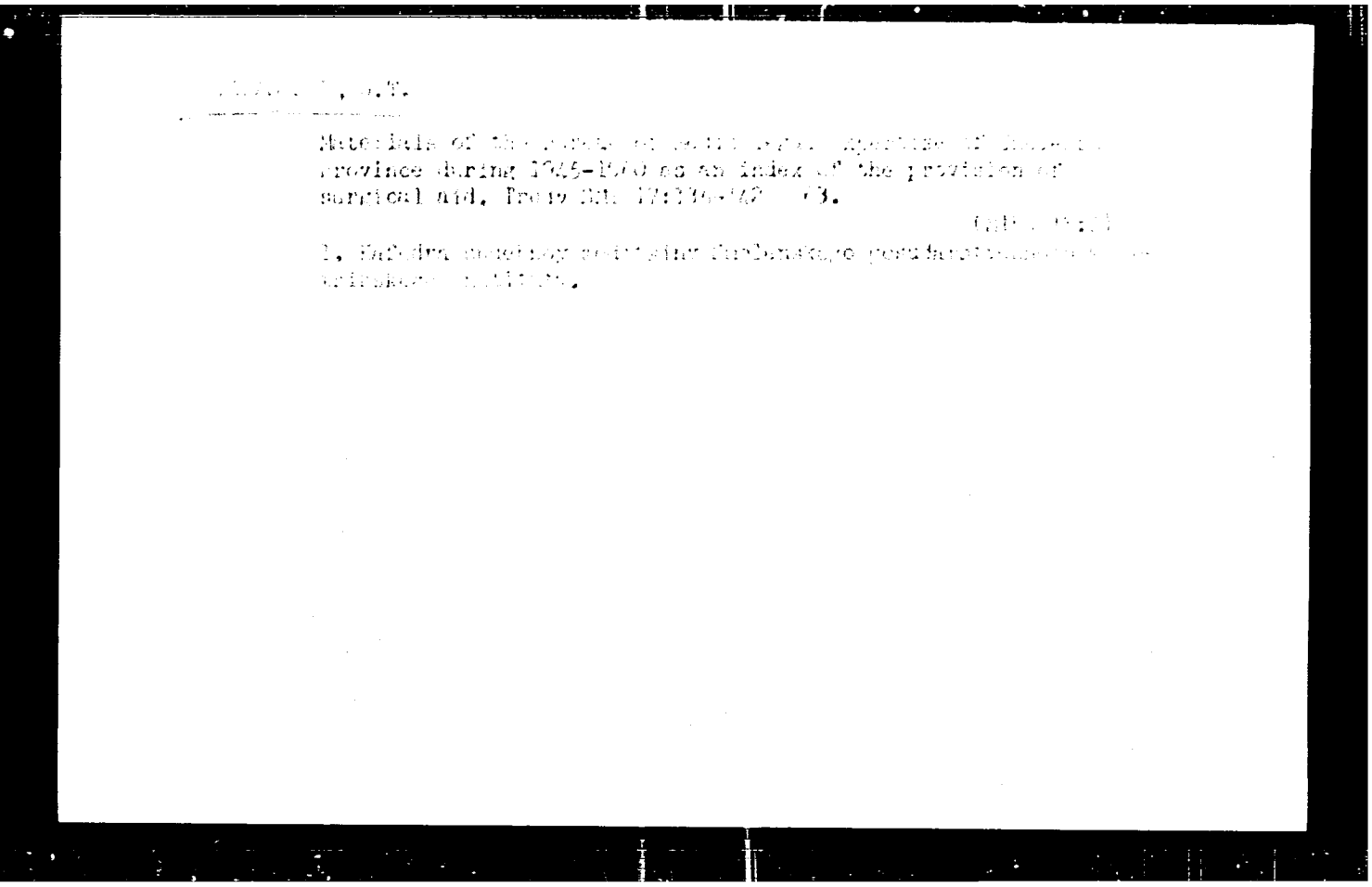
Special aspects of the geoelectric survey at Mrzyglod near Zawiercie; the problem of vertical resistivity. Kwartalnik geol 3 no.4:807-826 '59. (EEAI 10:1)

1. Zaklad Geofizyki I.G. i Przedsiebiorstwo Poszukiwan Geofizycznych (Poland--Geophysics)

TARASS, Nasser

Geophysical investigations in the surroundings of Krynki and their results. Kwartalnik geol 4 no.3:801-817 '60.

1. Zaklad Geofizyki Instytutu Geologicznego w Warszawie.



TARASTSOV, G.T.

Prophylactic trend of the medicolegal activity in the Soviet public health system prior to the Great Patriotic War. Trudy SMI 16:306-316 '63. (MIRA 18:1)

Material on medicolegal expertises in the realm of maternity and child protection during 1945-1960 as an index of the state of medical service. Ibid.:317-322

Material on medicolegal expertise in the realm of infant and child protection during 1945-1960 as an index of the state of medical service. Ibid.:323-329

Material on medicolegal expertises on nonviolent deaths of adults during 1945-1960 as an index of the state of medical service. Ibid.:330-335

1. Iz kafedry sudebnoy meditsiny (zav. prof. K.A.Nizhegorodtsev) Smolenskogo gosudarstvennogo meditsinskogo instituta.

TARASTSOVA, M.M.

Role of the elasticity [illegible] and the light sensitivity of the retina in elderly and [illegible] persons in the diagnosis of early glaucoma. Trudy SMI 17:96-99 '63.

Effect of emotional factors on the fluctuation of intraocular pressure in glaucoma. Ibid.:103-106

(MIRA 18:1)

1. Iz kafedry glaznykh bolezney (zav. - prof. M.Z. Popov) Smolenskogo gosudarstvennogo meditsinskogo instituta.

TARASTYK, D. T.

"Experience in using serological typing in epidemiological analysis of diptheria affections."

Report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists. 1959

ACCESSION NR: AT4019718 S/2536/63/000/058/0081/0099

AUTHOR: Galkin, M. N. (Candidate of technical sciences, Docent); Tarasutin, T. G. (Engineer); Pushkin, I. L. (Engineer)

TITLE: Thermophysical properties of materials

SOURCE: Moscow. Aviats. tekhn. institut. Trudy*, no. 58, 1963. Teploobmen pri lit'ye vy*zhimaniyem (Heat transfer during squeeze casting), 81-99

TOPIC TAGS: casting, squeeze casting, steel casting, heat conduction, thermal conductivity, core material, mold wash, core parameter, thermophysical property

ABSTRACT: The flow, cooling and hardening of alloys can readily be regulated during squeeze casting, but thin-walled castings of high quality can only be obtained with strict regulation of thermal and hydrodynamic conditions. In the present paper, assuming that the core material is homogeneous, the authors present a simple experimental technique for determining the principal thermophysical constants of cores and mold washes, as well as the heat capacity and latent heat of solidification of alloys. By the method of pouring metal into molds, the authors derive a relationship between the principal parameters of a and b cores, prepared from wet sand, self-hardening and quick-drying materials, and their density and moisture content or the concentration of binder. The experimental data are shown

Card 1/2

ACCESSION NR: AT4019718

in the form of nomograms which permit rapid selection of the appropriate coefficients. In the same way, the authors investigated the thermal conductivity of various washes and the relationship between this value and the number of casting operations. It was found that the thermal conductivity increases with the number of castings, rising particularly sharply after the first one. This increase in thermal conductivity is the result of both an increase in heat conduction and a decrease in thickness. This technique for the experimental determination of the true and average heat capacity and latent heat of solidification simplifies practical tests and increases their accuracy. Orig. art. has: 15 figures, 2 tables and 24 formulas.

ASSOCIATION: Aviats. tekhn. Inst., Moscow (Institute of Aviation Technology)

SUBMITTED: 00 DATE ACQ: 23Mar64 ENCL: 00

SUB CODE: MM, TD NO REF SOV: 006 OTHER: 000

Card 2/2

TARAS'YAN, A.G., inzh.

Turn out only completely finished installations.
Stroi. truboprov. 7 no.10:9-10 O '62. (MIRA 15:11)

1. Gosgazinspektsiya, Rostov-na-Donu.
(Gas, Natural--Pipelines)

ACCESSION NR: AP4033609 S/0032/64/030/004/0413/0415

AUTHORS: Kreshkov, A. P.; Drozdov, V. A.; Tarasyants, R. A.

TITLE: Titration of alkylthiocyanatesilanes in nonaqueous media

SOURCE: Zavodskaya laboratoriya, v. 30, no. 4, 1964, 413-415

TOPIC TAGS: alkylthiocyanatesilane, alkylthiocyanatesilane titration, sodium methylate titration, LP 58 potentiometer

ABSTRACT: A method was developed for the quantitative determination of the SCN groups in alkylthiocyanatesilanes of the general formula $R_nSi(SCN)_{4-n}$, where the R is a methyl, ethyl, or ethylene group. The method was based on titration with a methanol solution of sodium methylate in a medium of acetonitrile, or methyl, ethyl, n-propyl, and n-butyl alcohol. In one modification the titration was conducted in the presence of indicators of the oxyanthraquinone series (such as quinizarin, purpurin, alizarin, and anthrarufin) used in the form of saturated solutions in acetonitrile. In the second modification the titration was conducted by means of a LP-58 potentiometer with a system of glass and calomel electrodes. The neutralization point corresponded to a sharp jump (about 400 mv) of the

Card 1/2

ACCESSION NR: AP4033609

potential. The procedure consisted of placing a 0.03-0.09 gm sample into a 50 ml beaker, adding 15 ml of absolute alcohol or of anhydrous acetonitrile, and dissolving the sample. Titration was started 1-2 minutes after the immersion of the electrodes. The potential of the system was established after the addition of 0.04-0.06 ml of a 0.1 normal solution of CH_3ONa. In the region of the potential jump the solution was added drop by drop. The equivalence point is located by means of a graph. The potentiometric method permits a separate determination of various alkylthiocyanatesilanes in a mixture. Orig. art. has: 2 tables and 2 charts.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Chemicotechnological Institute)

SUBMITTED: 00 DATE ACQ: 2Apr64 ENCL: 00

SUB CODE: CH NO REF SOV: 005 OTHER: 001

Card 2/2

DROZDOV, V.A.; TARASYANTS, R.R.

Analysis of organosilicon polymers in nonaqueous media. Trudy MKHTI no.44:143-148 '64. (MIRA 18:1)

TARASYANTS, R.R.

Behavior of alkyl silyl sulfates in nonaqueous media. Trudy MKHTI no.44:149-151 '64. (MIRA 18:1)

LOKSHIN, E.Yu., doktor ekon. nauk, prof.; ANDREYEVA, O.I., kand. ekon. nauk; VOROSHILOVA, T.S., kand. ekon. nauk, dots.; TARAS'YANTS, R.B., kand. ekon. nauk, dots.; FASOLYAK, N.D., kand. ekon. nauk, dots.; EYDEL'MAN, M.R., kand. ekon. nauk; YAKOBI, A.A., kand. ekon. nauk, dots.; TYAGAY, Ye., red.; MUKHIN, Yu., tekhn. red.

[Economics of the supply of materials and equipment] Ekonomika material'no-tekhnicheskogo snabzheniia; uchebnoe posobie. 2., perer. i dop. izd. Moskva, Gospolitizdat, 1953. 510 p. (Industrial procurement) (MIRA 16:7)

SMIRNOV, Petr Vasil'yevich; TARAS'YANTS, Ruben Bogdanovich; FURDUYEV, P.V., red.; VORONOV, V.V., red.; PONOMAREVA, A.A., tekhn.red.

[Organization and planning of the marketing of industrial products in the U.S.S.R.] Organizatsiia i planirovanie sbyta promyshlennoi produktsii v SSSR. Pod obshchei red. P.V.Furdueva. Moskva, Gosplanizdat, 1960. 391 p. (MIRA 13:8)
(Marketing)

AMIRKHANYAN, P.O.; TARAS'YANTS, R.B., kand.ekonom.nauk, dots., red.; TARAS'YANTS, R.B., red.; SERGEYEVA, A., tekhn. red.

[Relationships among state supply and Soviet trade organs] Vzaimootnosheniia organov gossnabzheniia i organov sovetskoi torgovli. Moskva, Mosk. in-t narodnogo khoz. im. G.V.Plekhanova, 1961. 26 p. (MIRA 15:8)
(Industrial procurement)

S/191/63/000/004/012/015
B101/B186

AUTHORS: Kreshkov, A. P., Drozdov, V. A., Tarasyants, R. R.

TITLE: Analysis of alkyl silane phosphoric acids by titration in nonaqueous media

PERIODICAL: Plasticheskiye massy, no. 4, 1963, 57 - 60

TEXT: A titration method was developed to allow of rapidly determining the acid content of synthesis residues and the phosphorus or $OPO(OH)_2$ content in phosphorus-containing organosilicon compounds. For this purpose, the authors studied the titration of alkylsilane phosphoric acids synthesized in absolute ether by the following equation: $(4-n)MH_2PO_4+R_nSiCl_{4-n}\rightarrow(4-n)MCl + R_nSi[OPO(OH)_2]_{4-n}$; M = K or Na, R = CH_3, C_2H_5, $ClCH_2(CH_3)_2$, or $CH_3(CH_2=CH)$. The synthesized compounds are highly viscous liquids which cannot be purified either by crystallization or by vacuum distillation. They are analyzed by potentiometric titration. The curve mg titrant versus mv potential was plotted, and the point of equivalence was determined graphically. The following results for triethyl silane phosphoric acid

Card 1/3

Analysis of alkyl silane...

are given by way of example: (1) Titration of lithium ethylate in methanol passes two stages according to the reaction $(CH_3)_3SiOPO(OH)_2 + CH_3OLi \longrightarrow (CH_3)_3SiOPO(OH)OLi + CH_3OH$; $(CH_3)_3SiOPO(OH)OLi + 2CH_3OLi \longrightarrow (CH_3)_3SiOCH_3 + Li_3PO_4 + CH_3OH$. In ethyl, isopropyl, and n-butyl alcohols as well as in acetonitrile, acetone, methyl-ethyl ketone and methyl butyl ketone, the reaction takes place in a single stage forming immediately trimethyl methoxy silane and trilithium phosphate with the consumption of 3 moles titrant per mole of acid. The potential jump is 300 - 350 mv. (2). Titration of trimethyl silane phosphoric acid with potassium methylate or tetramethyl ammonium hydroxide in all media follows the reaction $(CH_3)_3SiOPO(OH)_2 + CH_3OK \longrightarrow (CH_3)_3SiOCH_3 + KH_2PO_4$. (3) Titration with sodium methylate in isopropyl-n-butyl or benzyl alcohols is the same as titration with potassium methylate. In methanol or ethanol, however, two potential jumps are observed corresponding to the successive consumption of two equivalents of the titrant. The first jump corresponds to the formation of sodium trimethyl silane hydrophosphate. In acetonitrile and in ketones, 1 mole of titrant per mole of acid is consumed for titration with sodium methylate. The

S/191/63/000/004/012/015
B101/B186

potential jumps are between 300 and 350 mv. (4) The study on use of quinizarine, bromine-phenol blue, brilliant yellow, alkali blue, and methyl red as indicators during titration showed that the color reversion of methyl red corresponded most precisely to the points of equivalence determined potentiometrically. There are 5 figures and 1 table.

L 12581-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS ASD Ps-4/Pc-4/Pr-4
RM/WW/MAY
ACCESSION NR: AP3003314 S/0191/63/000/007/0058/0061

AUTHORS: Kreshkov, A. P.; Drozdov, V. A.; Tarasyants, R. R. 70

TITLE: Nonaqueous titration of monomeric and polymeric organic borosilicate compounds

SOURCE: Plasticheskiye massy, no. 7, 1963, 58-61

TOPIC TAGS: boron, silicon, alkylsilane, arylchlorosilane, acetone, acetonitrile, methylethylketone, diethylketone, methylbutylketone, nitromethane, potassium methoxide

ABSTRACT: A new method of analysis of organic borosilicate compounds based on a nonaqueous potentiometric or visual titrimetric method has been developed. This is a rapid and accurate method, and the same sample can be used for determination of borosilicate compounds as well as for alkyl and arylchlorosilanes which are the starting products. The solvents investigated as titration media were acetone, acetonitrile, methylethylketone, diethylketone, methylbutylketone, nitromethane and several alcohols. The titrant used was potassium methoxide. The best-suited solvents were found to be methyl alcohol, methylethylketone, nitromethane and acetone. An interesting fact was found that, by addition of

Card 1/2

L 12581-63
ACCESSION NR: AP3003314

small amounts of glycerin, it was possible to control the magnitude of the potential drop between the breaks. Quinizarin and 1,5-dioxianthraquinone were used as indicators for visual titration. The visual titrations are more applicable for individual compounds and not in mixtures. Orig. art. has: 3 tables and 4 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 30Jul63 ENCL: 00

SUB CODE: ML NO REF SOV: 006 OTHER: 004

Card 2/2

DROZDOV, V.A.; TARASYANTS, R.R.; VLASOVA, Ye.G.; KUBYAK, Z.A.

Study of trialkylsilylphosphoric acids and bis-(trialkylsilyl) sulfates by conductometric titration in nonaqueous media. Izv. vys.ucheb.zav.; khim. i khim. tekh. 6 no.6:960-964 '63. (MIRA 17:4)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva, kafedra analiticheskoy khimii.

L 52558-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AT5012667 UR/2539/63/000/044/0143/0148

AUTHOR: Drozdov, V.A.; Tarasyants, R.I.

TITLE: Analysis of organosilicon polymers in nonaqueous media

SOURCE: Moscow. Khimiko-tekhnologicheskiy institut. Trudy, no. 44, 1963. Issledovaniya v oblasti fizicheskoy khimii, analiticheskoy khimii i elektrokhimii (Research in the field of physical chemistry, analytical chemistry and electrochemistry), 143-148

TOPIC TAGS: organosilicon polymer, polymer analysis, boron containing polymer, sulfur containing polymer, potentiometric titration, conductimetric titration, nonaqueous titration

ABSTRACT: Linear organosilicon polymers containing phosphorus, boron, or sulfur were synthesized by the usual method:

$$\left.\begin{matrix} R_2SiCl_2 \\ R_2Si(OCOCH_3)_2 \end{matrix}\right\} \begin{matrix} + H_3PO_4 \rightarrow [(R_2Si)_3(PO_4)_2]_n \\ + H_3BO_3 \rightarrow [3R_2SiO \cdot B_2O_3]_n \\ + H_2SO_4 \rightarrow [R_2SiO_2 \cdot SO_2]_n \end{matrix}$$

Then the authors developed methods for the analysis of these compounds involving

Card 1/2

L 52558-65

ACCESSION NR: AT5012667

direct titration in nonaqueous media, elec rochemical and indicator methods being used to determine the equivalence points. In the case of polymers with the Si-O-P bond, alcohols, ketones, nitromethane, a d acetonitrile were found to be suitable solvents for the potentiometric titration; nly nitromethane and acetonitrile were recommended for the conductimetric titra ion. Alkali metal methoxides and hydroxides of quaternary ammonium salts (tetraethyl mmonium hydroxide) were recommended as titrating agents. In the case of polymers with the Si-O-B bond, suitable solvents for the potentiometric titration are methyl alcoh , methyl ethyl ketone, nitromethane, and acetonitrile; no conductimetric titration c und be carried out. For polymers containing the Si-O-S bond, the titrating agents to b used in the potentiometric titration are hydroxides of quaternary ammonium salt . The procedure employed in the determination is described. Orig. art. has: 3 figures, 1 table and 3 formulas.

ASSOCIATION: Moskovskiy khimiko-tek nologicheskiy institut (Moscow Chemical Engineering Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 006 OTHER: 0 4

Card 2/2

KRESHKOV, A.P.; DROZDOV, V.A.; TARASYANTS, R.R.

Titration of alkyl thiocyanatosilanes in nonaqueous media.
Zav.lab. 30 no.4:413-415 '64. (MIRA 17:4)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

L 27119-66 EWT(m)/EWP(w) IJP(c) EM

ACC NR: AP6016864 SOURCE CODE: UR/0198/66/002/002/0001/0013

AUTHOR: Tarasyev, G. S. (Tula); Tolokonnikov, L. A. (Tula)

ORG: Tula Polytechnic Institute (Tul'skiy politekhnicheskiy institut)

TITLE: Finite two-dimensional deformations of a compressible material

SOURCE: Prikladnaya mekhanika, v. 2, no. 2, 1966, 1-13

TOPIC TAGS: material deformation, stress concentration, nonlinear equation

ABSTRACT: The problem stated involves the finite two-dimensional deformations of a solid body, subjected to arbitrary dislocations or deformations, when the dependence of hydrostatic stress on change of volume and the rule of variation of form are arbitrary. The fundamental coordinates are assumed to be those of the body in the initial state. The problem is reduced to the solution of a nonlinear equation for a generalized stress function. An analysis of the coefficients derived shows that the compressibility of the material is reduced to a diminution of the effect of nonlinearity. The fundamental relationship described for the case of conformal mappings affords the possibility of solving the problem of stress concentration in the vicinity of variously shaped cavities. Orig. art. has: 75 formulas. [JPRS]

SUB CODE: 20 / SUBM DATE: 24Jul65 / ORIG REF: 005

Card 1/1

ZUYEV, V.A., inzh.; TARAS'YEV, I., inzh.

Cleaning of mine air ducts. Ugol' Ukr. 4 no.12:19-20 D '60.
(MIRA 13:12)

(Mine ventilation)

BEBENIN, M.Ye., inzh.; RESHETNYAK, Yu.V., inzh.; TARAS'YEV, V.I., inzh.; FILATOV, I.A., inzh.; BRAGIN, K.F., inzh.

Supporting workings in deep mines. Ugol'. prom. no.6:24-28 N-D '62. (MIRA 16:2)

(Donets Basin—Mine timbering)

PODDUBNYY, I.; YANIKOV, I.; FABRIKOV, I., zhivotnovod; TARASYUK, A.; TSAPLIN, V.; BAKLITSKAYA, Ye., zven'yevaya; GRIDINA, A., doyarka; KRAVTSOVA, Z., telyatnitsa; KOMYAGINA, R., svinarka; SAVEL'YEV, I., chaban; SLADKOMEDOVA, N., ptichnitsa; RUD, M., mekhanizator; GOGIN, S., mekhanizator.

Our collective farm in seven years. Nauka i pered.op.v sel'khoz. 9 no.1:5-9 Ja '59. (MIRA 13:3)

1. Kolkhoz "Ukraina," Kirovskogo rayona Krymskoy oblasti. 2. Predsedatel' kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for Poddubnyy). 3. Glavnyy agronom kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for Yanikov). 4. Glavnyy mekhanik kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for Tarasyuk). 5. Sekretar' partorganizatsii kolkhoza "Ukraina" Kirovskogo rayona Krymskoy oblasti (for TSaplin).
(Kirovskoye District--Agriculture)

1. T'RASYUK, A.S. (Eng.)

2. USSR (600)

4. Spraying

7. The OTL-30 suspended tractor sprayer for the KD-35 tractor. Sel'khozmashing no. 11. 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

TARASYUK, A. S., RUZHITSKIY, S. A., (ENGS)

Farm Engines

Small capacity engine for agricultural machines. Sel'khozmashina no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1953, Uncl.

TARASYUK, A. S., RUZHITSKIY, S. A., (ENGS)

Gas and Oil Engines

Small capacity engine for agricultural machines. Sel'khozmashina no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1953, Uncl.
2

TARASYUK, A. S., RUZHITSKIY, S. A.

Farm Engines

Small capacity engine for agricultural machines. Sel'khozmashina no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

TARASYUK, A. S., RUZHITSKIY, S. A. (ENGS)

Gas and Oil Engines

Small capacity engine for agricultural machines. Sel'khozmashina no. 6, 1952.

Monthly List of Russian Accessions. Library of Congress, September 1952. Unclassified.

TARASYUK, B.F.

Status of work on acclimatizing fish within the system of the Main Fish Culture Administration. Trudy sov.Ikht.kom. no.3:84-89 '54. (MLRA 7:8)

1. Nachal'nik Glavnogo upravleniya rybovodstva i rybookhrany Ministerstva rybnoy promyshlennosti SSSR - Glavrybvoda.
(Acclimatization) (Fishes)

Tarasyuk, B. F.

Category: USSR/General Division. Nature Conservation. A-5

Abs Jour: Referat Zh.-Biol., No 6, 25 March, 1957, 21407

Author : Tarasyuk, B.F.
Inst : not given
Title : The Preservation of Fish Stocks.

Orig Pub: Okhrana prirodi i zapoved. delo v SSSR, 1956, No 1, 23-35.

Abstract: In numerous USSR interior reservoirs the catch of fish at present is close to the maximum; the natural reproduction of stocks is lowered; the quality of catches is deteriorated; a number of reservoirs have lost their economic value. The chief causes of these manifestations are the consequences of uncontrolled drainage into large rivers; discarding of impure industrial sewage (of oil-refining, paper cellulose and other enterprises) into fishery reservoirs; the inefficient organization of lumber flotation; uneconomic exploitation of fish resources; the violation of fishing rules; the weakness of appropriate legal action. Under these circumstances, mea-

Card : 1/2 -1-

Category: USSR/General Division. Nature Conservation. A-5

Abs Jour: Referat Zh.-Biol., No 6, 25 March, 1957, 21407

sures of fish-stock reproduction take on an enormous significance; they are attained through fish conservation, regulation of fishing, fish-hatching, improvement of fish industry, acclimatization and the increased scientific study of numerous problems. The speediest realization of the above-mentioned measures will permit the fish industry to create stable supplies and will systematically increase the catch of good quality fish.

Card : 2/2 -2-

TARASYUK, B.F.

Analysis of the productive activity of sturgeon hatcheries. Trudy VNIRO 56:171-210 '64. (MIRA 18:4)

1. Gosudarstvennyy proizvodstvennyy komitet po rybnomu khozyaystvu SSSR.

TARASYUK, B.S., inzh.

Machine tool for machining objects made of cellular concrete.
Stroi. i dor.mashinostr. 4 no.6:25-27 Je '59. (MIRA 12:8)
(Concrete construction) (Milling machines)

TARASYUK, D. T.

Tarasyuk, D. T. -- "Materials on the Serological Characteristics of the Diphtheria Bacillus." First Leningrad Med Inst imeni Academician I. P. Pavlov, Leningrad, 1955 (Dissertation for the degree of Candidate of Veterinary Sciences)

SO: Knizhnaya Letopis', No. 24, Moscow, Jun 55, pp 91-104

TARASYUK, D.T.

Microbiological characteristics of diphteria during different epidemics. Report No.2: Use of serological typing in epidemiological analysis of focal spread of diphtheria. Trudy Len.inst. epid. i microbiol. 18:125-131'58. (MIRA 16:7)

1. Iz laboratorii detskikh kapel'nych infektsiy (zav. N.N.Rubel') Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(DIPHTHERIA--MICROBIOLOGY)

TARASYUK, D.T.

Microbiological characteristics of diphtheria during different epidemics. Report No.1: Serological types of diphtherial microbes in a period of high diphtheria incidence. Trudy Len.inst. epid. i microbiol.18:118-124'58. (MIRA 16:7)

1. Iz laboratorii detskikh kapel'nykh infektsiy (zav.-N.N.Rubel') Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(DIPHTHERIA--MICROBIOLOGY)

DOLINSKIY, P., kand.tekhn.nauk, starshiy prepodavatel'; TARASYUK, G., starshiy prepodavatel'

Increase requirements of ship designers and builders. Mor.flot. 23 no.2:32-33 F '63. (MIRA 16:2)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche. (Shipbuilding)

TARASYUK, Igor' Aleksandrovich; GOREL'IK, I.M., red.

[Equalizing the economic conditions contributing to the earning power of cotton-growing collective farms in Uzbekistan] O vyravnivanii ekonomicheskikh uslovii dokhodnosti khlopkovodcheskikh kolkhozov Uzbekistana. Tashkent, Izd-vo "Uzbekistan," 1964. 70 p. (MIRA 18:3)

TARASYUK, N.

Year's work of the provincial collective farm planning organization. Sel'. stroi. 15 no.12:19-20 D '60. (MIRA 13:12)

1. Direktor Yaroslavskogo oblkhozproyekta.
(Yaroslavl Province--City planning)

POLYACHEK, E. I., TARASYUK. P. S.,
Pharmacists

Penicillin

Penicillin, 50,000 units in gelatine capsules. Apt.delo no. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

TARASYUK, P.Ye.

Experience of the Kiev Shoe Factory No.1. Kozh.-obuv. prom. 7 no.12:23-25 D '65. (MIRA 19:2)

1. Direktor Kiyevskoy obuvnoy fabriki No.1.

TARASIUK, S.

Minirovanie i vosstanovlenie zheleznykh dorog. [The use of explosives and restoration of railroads]. (Sots. transport, 1940, no. 12 p. 37-45).
DLC: HE7S6

SO: Soviet Transportation and Communication, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

1. Tarasyuk, S. S., Eng.

2. USSR (600)

4. Agricultural Machinery

7. The OTL-30 suspended tractor sprayer for the KD-35 tractor, Sel'khozmashina, No. 11, 1952

9. **Monthly List of Russian Accessions**, Library of Congress, February 1953. Unclassified.

BEZUGLYY, V.D.; DMITRIYEVA, V.N.; TARASYUK, T.S.; POLYAKOV, V.P.; IZMAYLOV, N.A.

Polarographic determination of glyoxylic acid. Zhur.anal.khim. 15 no.2:231-233 Mr-Ap '60. (MIRA 13:7)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M.Gor'kogo i Khar'kovskiy zavod zubovrachebnykh materialov.
(Glyoxylic acid)

BEZUGLYY, V.D.; DMITRIYEVA, V.N.; TARASYUK, T.S.; IZMAYLOV, N.A.

Polarographic study of glyoxylic acid. Zhur.ob.khim. 30 no.7:2415-2421 Jl '60. (MIRA 13:7)
(Glyoxylic acid)

SOV/124-57-3-3146

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 71 (USSR)

AUTHOR: Tarasyuk, V. A.

TITLE: The Influence of the Mach Number on the Magnitude of the Base-pressure Drop (Vliyaniye chisla M na velichinu donnogo razrezheniya)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1955, Nr 176, pp 154-159

ABSTRACT: The paper solves the problem of the interaction between the outer-stream flow and a boundary layer and the related problem of the determination of the base-pressure drop. The author assumes that in the equation of the mixing

$$\frac{dm}{dx} = k \rho_0 u \qquad \left(m = \int_0^{\delta} \rho u_x dy\right)$$

where ρ_0 and u are the density and velocity, respectively, at the outer limit of the boundary layer, k is the mixing coefficient, and k and $(1 - \delta^*/\delta)$ are functions of the Mach number, as follows:

Card 1/2

SOV/124-57-3-3146

The Influence of the Mach Number on the Magnitude of the Base-pressure Drop

$$k = \frac{0.0955}{1 + \frac{\gamma - 1}{2} M_o^2} \qquad \text{and} \qquad \left(1 - \frac{\delta^*}{\delta}\right)_c = \frac{0.45}{1 - 0.67\frac{\gamma - 1}{2} M_o^2}$$

where M_o is the outer-stream Mach number. In the selection of the constants it is assumed that δ^*/δ δ^{**}/δ, as determined in terms of Dorodnitsin's variables, possess the same values as for a free turbulent jet. Solving the problem by the same method as followed by Crocco and Lees [Crocco (Luigi), Lees (Lester), J. Aeronaut. Sci., 1952, Vol 19, Nr 10], the author obtains values for the base-pressure drop which are in good agreement with experimental results.

I. P. Ginzburg

Card 2/2

BEZSONOV, P.A. (Moskva); BELYAYEV, V.I. (Kolomna); BUDANTSEV, P.A. (Orenburg); KABANOV, G.I. (Melekess); MAYOROV, S.V. (Moskva); MURAVIN, K.S. (Moskva); PREDEIN, P.G. (Gubakha, Permskoy oblasti); SIKORSKIY, K.P. (Moskva); TARASYUK, V.Ye. (Kiyev); KHABIB, R.A. (Samarkand).

Discussing plans of programs. Mat.v shkole no.1:4-24 Ja-F '60. (MIRA 13:5)

1. Zaveduyushchiy kafedroy vysshey matematiki Moskovskogo instituta khimicheskogo mashinostroyeniya (for Bezsonov).
(Mathematics--Study and teaching)

TARASYUK, V. Z.

"Deformation of the Bony Section of the Human Nasal Bridge; Its Development and Form." Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets, 30 Sep 54. (ZU, 22 Sep 54)

SO: Sum 432, 29 Mar 55

KANTOR, A.A., kand.med.nauk, TARASYUK, V.Z., kand.med.nauk

Tympanoplasty using a submerged skin flap. Vest.oto-rin. 20 no.5:128 S-O '58 (MIRA 11:12)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. - dots. D.A. Bytchenko) Chernovitskogo meditsinskogo instituta.
(EAR--SURGERY)